



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 815,999	03 23 2001	Stephen Christopher Kitson	30001064	2104

7590 07 14 2003

Paul D. Greeley
c/o Ohlandt, Greeley Ruggiero & Perle
Suite 903
One Landmark Square
Stamford, CT 06901

EXAMINER

NGUYEN, HOAN C

ART UNIT PAPER NUMBER

2871

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,999

Applicant(s)

KITSON ET AL.

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15, 16 and 18-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) 1-12, 15-16 and 18-29 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-12, 16 and 18-29 drawn to a liquid crystal device with random or pseudorandom surface alignment structure, classified in class 349, subclass 191.
 - II. Claim 15 drawn to a method for producing a liquid crystal device providing a wall and a surface alignment structure on the first cell wall, classified in class 349, subclass 156.

The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this case a liquid crystal device with random or pseudorandom surface alignment structure, which can be formed by randomly rubbing the alignment layer into different surface structures. There no need of a wall to form random or pseudorandom alignment structures.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Group I contains claims directed to the following patentably distinct species of the claims invention:

A: Claims 18 and 5 drawn to array of upstanding features is not treated with or formed from a material, which will induce local homeotropic (vertical) alignment of the liquid crystal material.

B: Claims 19, 2 and 6-7 drawn to the liquid crystal molecule, which is adjacent to the (first?) cell wall surface between the upstanding features, adopt an alignment that is one of planar and tilted planar [Fig. 2 do describe ONLY planar alignment without tilting].

C: Claim 22 drawn to a surface alignment structure on the inner surface of the first cell and on the first electrode structure [Fig. 2 show ONLY a surface alignment structure 11 on the inner surface of the first cell wall 2 but not on the first electrode structure 12.]

D: Claim 23 drawn to the upstanding features having different sizes (with possibly same shape) in different regions of the first cell wall according to Fig. 12.

E: Claim 24 drawn to the upstanding features having different shapes (with possibly same size) in different regions of the first cell wall.

F: Claims 25 and 8 drawn to the upstanding features having different tilt angles in different regions of the first cell wall according to Fig. 11.

G: Claims 26-27 drawn to the upstanding features having different orientations in different regions of the first cell wall.

H: Claim 27 drawn to the upstanding features having same shapes and being randomly orientated in different regions of the first cell wall.

I: Claim 28 drawn to the upstanding features having a plurality of shapes and a plurality of sizes in different regions of the first cell wall according to Fig. 10.

Notes:

- *The upstanding features in Species C-I will generate the different aligning mechanism in liquid crystal molecules, thus LC cells with different upstanding features in Species C-I will modulate light differently. Therefore, LC cells with different upstanding features in Species C-I will direct to different embodiments or inventions.*
- *There is no figure shows (a) "different height, different shape, different tilt and different orientation" as claim 10 cited and (b) a tilt angle and orientation of the posts are uniform throughout the device as claim 11 cited. Specification also does not disclose the combination as (a) and (b) above.*
- *Claims 12 and 15 require both "a wall and a surface alignment structures" in a liquid crystal device. Specification describes a surface alignment structures as a wall/post 10. Therefore, a wall and a surface alignment structures are a same*

Art Unit: 2871

thing. If a wall was different from the surface alignment structures, please provide the Figure with both "a wall and a surface alignment structures" in a liquid crystal device.

- *There is no figure shows" a surface alignment structure 11 on the first electrode structure 12" as claim 22 cited. This limitation also does not disclose in specification.*
- *There is no figure shows" the inner surface of the second (first?) cell wall 4 is treated to produce at least one of a locally planar or tilted planar alignment of the liquid crystal material substantially at right angles to the alignment direction on the first cell wall, whereby the cell functions in a TN mode" in claim 4.*

If Group I is elected, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Art Unit: 2871

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703) 306-0472.

HOAN C. NGUYEN
Examiner
Art Unit 2871

chn
June 11, 2003

TOANTON
PRIMARY EXAMINER